UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _11 June 2007_.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-29_ is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-29_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a) ☐ All b) ☐ Some * c) ☐ None of:

   1. ☒ Certified copies of the priority documents have been received.

   2. ☐ Certified copies of the priority documents have been received in Application No. _____.

   3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _1-29-2002_.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Introduction

1.   The following is a non-final action in response to the mailing problems received on 6/11/2007 about the action mailed on 12/01/2006. Claims 1-29 are now pending in this application.

Claim Objections

2.   Claim 9 is objected to because it is unclear what is being substituted for what. Appropriate correction is required.

Claims 27 and 28 are objected to because it is unclear what the "or each" is referring to. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3.   Claim 29 recites the limitation "party applies a method or apparatus according to the first aspect of the invention" and depends from claim 25, which has no apparatus and it is unclear what is meant by "the first aspect of the invention." There is insufficient antecedent basis for this limitation in the claim. This claim is also crossing statutory bases by trying to claim a method and apparatus in the same claim.

A suggested way to write the claim without the 112 problems but making no claims regarding allowability follows. Claim 29, a method according to claim 25 wherein the trusted third party in order to fix said price determines a balance of said currency and stock and commodity traded with reference to the fixed price.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Berckmans (U.S. Patent 6,876,981 B1) (Here after Berckmans) in view of Filby et al.

(U.S. Patent 5,025,391) (here after Filby).

As per claim 1, Berckmans fails to explicitly teach filtering data automatically by

reference to the historical record and predetermined validation criteria. Filby teaches

analyzing the data by reference to the historical record using predetermined criteria.

(See the Abstract) Berckmans teaches receiving price samples from many sources

over time. (See Column 3 Line 61 to Column 4 Line 9)   Berckmans teaches recording

the sampled values forming an historical record. (See Column 4 Lines 44-57)

Berckmans teaches recording the historical data as well as managing it including some

deletion. If data is going to be deleted it is obvious to delete erroneous data so that it

would not be used in generating a quote based on the historical data. Berckmans

teaches providing a means for users to view financial data. (See Abstract) It would

have been obvious to a person of ordinary skill in the art at the time the invention was

made to apply the data analysis of Filby to Berckmans data history in order to generate

a more dependable quote by combining several recent quotes in case a transmission

error or some other anomalous event had introduced erroneous data to corrupt the data

history.

As per claim 2, Berckmans teaches tracking multiple assets at a tick by tick level. (See Column 3 Line 65 through Column 4 Line 57) It would have been obvious to a person of ordinary skill in the art at the time the invention was made to track the source of bids in order to try to identify where erroneous data is coming from when an anomalous bid is identified.

As per claim 3, Berckmans teaches receiving financial data generated at the exchanges (such as actual trades) and secondary or derivative sources. (Such as quotations) (See Column 3 Lines 61-64) It would have been obvious to a person of ordinary skill in the art at the time the invention was made to track both trades and quotes to achieve a full picture of the market for a security.

As per claim 4, NASDAQ Level II quotes are a well-known source of financial data providing information on available quotations with the market makers being obligated to accept orders made at their bid price. Trading information is available and NASDAQ provides online execution. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the best buy and sell prices available in deriving a quotation for a current fixed price because shopping for the best price is very old and well known in the art. (If you want a reference Jesus of Nazareth throwing the moneychangers out of the temple for cheating the penitents through collusion.)

As per claim 5, Filby teaches having different responses for different types of data. (See Column 5 Lines 15-35) It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply different weights to different

types of data because the dependability of data can vary so if one is known to be more accurate under certain market conditions than the other it should have a higher weight.

As per claim 6, Filby teaches having different responses for different types of data. (See Column 5 Lines 15-35) It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply different weights to different types of data because the dependability of data can vary. So if one is known to be more accurate under certain market conditions than the other it should have a higher weight when combining several quotes/trades into one more dependable quote.

As per claim 7, Filby teaches having different responses for different types of data. (See Column 5 Lines 15-35) It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply different weights to different types of data because the dependability of data can vary. So if trading prices are known to be more accurate than quotations they should have a higher weight when combining several quotations/trades into one more dependable quote.

As per claim 8, Filby teaches having different responses for different types of data. (See Column 5 Lines 15-35) It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply different weights to different types of data because the dependability of data can vary. So if trading prices are known to be far more accurate than quotations they should have a far higher weight or simply drop the quotation when combining several quotations/trades into one more dependable quote and only use the trade data to make that dependable quotation.

As per claim 9, for examination purposes it was assumed that as long as the trading prices were within a certain range determined by the quoted prices they were what was used to determine the more dependable quotation. Filby teaches having different responses for different types of data. (See Column 5 Lines 15-35) Official notice is taken that the use of one kind of data to verify the reasonableness of another kind of data is also well known in the art. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply different weights to different types of data because the dependability of data can vary. It would also have been obvious to use the quote data to confirm the accuracy of the trading data because trades should happen either at the quotes or in the spread between them unless someone is intentionally taking a worse deal than what the market is offering or the data is inaccurate for instance old data could be very different from where the market currently is trading.

As per claim 10, Filby teaches adjusting criteria based upon further responses as either a cause for concern or not. (Columns 5 & 6) Berckmans teaches managing the data including deleting data. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to categorize data as valid or invalid based upon initial criteria and to then confirm validity based upon subsequent data conforming to the data previously considered invalid because using multiple data points to confirm data is prevalent in data analysis going back to before Samuel Clemens was confirming the water depth under a riverboat using a weighted rope and calling out Mark Twain.

As per claim 11, Filby teaches adjusting criteria based upon data received from different sensors. (Columns 5 & 6) It would have been obvious to a person of ordinary skill in the art at the time the invention was made to consider data from a questionable source more questionable than data from other sources known to be valid because it such common knowledge that a bad source of information is untrustworthy that it is a part of our legal system. If an individual has a history of dishonesty such as a conviction for embezzlement that is a factor a jury is allowed to consider in deciding what weight to apply to a witnesses testimony. It is obvious to apply the same to a source of bad quotations for a security.

As per claim 12, Filby teaches requesting human intervention to evaluate data that preset criteria indicates is a cause for concern. (Columns 5 & 6) It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the system ask a human operator to make a judgment about whether the data is reasonable or not because expert systems often request human intervention to deal with anomalous results.

As per claim 13, Berckmans teaches receiving the opening and closing prices among other metadata. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to establish a more dependable quote at specific times of day because the opening and closing quotes have long been published having a standard time to take a measurement is often essential in data analysis when what is being studied is how data changes over time.

As per claim 14, since regular measurements are going to be taken throughout the day that it would be obvious to a person of ordinary skill in the art at the time the invention was made to take those measurements on the hour every hour the market is open because the next finer degree of granularity in measuring time after days is hours since open and closing prices are about measuring a financial instrument's performance over a day anyone conducting a transaction over a day would be concerned about performance over the hour.

As per claim 15, Berckmans fails to explicitly teach filtering data automatically by reference to the historical record and predetermined validation criteria. Filby teaches analyzing the data by reference to the historical record using predetermined criteria. (See the Abstract) Berckmans teaches receiving price samples from many sources over time. (See Column 3 Line 61 to Column 4 Line 9) Berckmans teaches recording the sampled values forming an historical record. (See Column 4 Lines 44-57) Berckmans teaches recording the historical data as well as managing it including some deletion. If data is going to be deleted it is obvious to delete erroneous data so that it would not be used in generating a quote based on the historical data. Berckmans teaches providing a means for users to view financial data. (See Abstract) It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the data analysis of Filby to Berckmans data history in order to generate a more dependable quote by combining several recent quotes in case a transmission error or some other anomalous event had introduced erroneous data to corrupt the data history.

As per claim 16, Berckmans teaches capturing every trade and therefore has captured every sample in the case of snapping every instant. (See Column 4 Lines 44-57) It would have been obvious to a person skilled in the art at the time the invention was made to record data at regular intervals because a standard data analysis tool is seeing how something changes over time.

As per claim 17, Berckmans teaches capturing all the market data therefore the market closing price for security can be considered a snap and is often used to determine the trading price for an asset such as a mutual fund. Filby teaches analyzing all of the data looking for abnormalities that could signal trouble. (See Abstract) It would have been obvious to a person of ordinary skill in the art at the time the invention was made to analyze the data for abnormalities that could signal trouble are found before they effect the results.

As per claim 18, Berckmans fails to explicitly teach filtering data automatically by reference to the historical record and predetermined validation criteria. Filby teaches analyzing the data by reference to the historical record using predetermined criteria. (See the Abstract) Filby also teaches adjusting criteria based upon further responses as either a cause for concern or not a cause for concern. (See Columns 5 & 6) Berckmans teaches receiving price samples from many sources over time. (See Column 3 Line 61 to Column 4 Line 9) Berckmans teaches recording the sampled values forming an historical record. (See Column 4 Lines 44-57) Berckmans teaches recording the historical data as well as managing it including some deletion. If data is going to be deleted it is obvious to delete erroneous data so that it would not be used in

generating a quote based on the historical data. Berckmans teaches providing a means for users to view financial data. (See Abstract) It would have been obvious to a person of ordinary skill in the art at the time the invention was made to categorize data as valid or invalid based upon initial criteria and to then confirm validity based upon subsequent data conforming to the data previously considered invalid because using multiple data points to confirm data is prevalent in data analysis as confirmed by the old carpentry saying "measure twice cut once." It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the data analysis of Filby to Berckmans data history in order to generate a more dependable quote by combining several recent quotes in case a transmission error or some other anomalous event had introduced erroneous data to corrupt the data history.

As per claim 19, Filby teaches proceeding differently based on the data received. (See Columns 5 & 6) It would have been obvious to a person of ordinary skill in the art at the time the invention was made to handle data that is categorized as questionable differently from data categorized as valid because using faulty data in a calculation will lead to a faulty result so it is important to verify data being used in calculations.

As per claim 20, Berckmans teaches receiving data from multiple sources and storing it in a database forming an historical record. (See Abstract) Filby teaches analyzing the data. (See Columns 5 & 6) It would have been obvious to one of ordinary skill in the art at the time the invention was made to analyze data when it is being recorded because it is important to verify that the data was received correctly before major decisions are made because of what it says.

As per claim 21, Filby teaches proceeding differently based on the data received. (See Columns 5 & 6) It would have been obvious to a person of ordinary skill in the art at the time the invention was made to handle data that has been confirmed differently from data not yet confirmed valid because using faulty data in a calculation will lead to a faulty result so it is important to verify data being used in calculations.

As per claim 22, Filby teaches adjusting criteria based upon data received from different sensors. (Columns 5 & 6) It would have been obvious to a person of ordinary skill in the art at the time the invention was made to consider data from a questionable source more questionable than data from other sources known to be valid because it such common knowledge that a bad source of information is untrustworthy that it is a part of our legal system. If an individual has a history of dishonesty such as a conviction for embezzlement that is a factor a jury is allowed to consider in deciding what weight to apply to a witnesses testimony. It is obvious to apply the same to a source of bad quotations for a security.

As per claim 23, Filby teaches requesting human intervention to evaluate data that preset criteria indicates is a cause for concern. (Columns 5 & 6) It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the system ask a human operator to make a judgment about whether the data is reasonable or not because expert systems often request human intervention to deal with anomalous results.

As per claim 24, Berckmans teaches the data samples being financial assets which would include currency, commodity or stock items. It would have been obvious to

one of ordinary skill in the art at the time the invention was made to track currencies,

commodities, and stocks as financial assets because all appear in the investing section

of newspapers.

6.   Claims 25-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over

mutual funds as defined in Barron's Dictionary of Finance and Investment Terms Fourth

Edition (hereafter simply Barron's) and Charles Schwab's implementation of mutual

funds as explained on their website (hereafter simply Schwab).

As per claim 25, Barron's teaches that Open-end Mutual fund shareholders can

· sell their shares at the Net Asset Value (NAV) on demand. Official notice is taken that

the NAV per share is calculated by adding up all of a funds assets and liabilities at

current market prices and dividing that by the number of shares outstanding at that time.

Because the NAV would fluctuate throughout the day along with the market prices of the

assets and liabilities held by a mutual fund many mutual fund companies take orders to

move money into or out of a fund through out the day but only execute them after a cut-

off time with the NAV being calculated at that time. Schwab has cut-off times for its

mutual funds any orders received after that would be processed the next business day

unless cancelled. (See Schwab page 2 Cut-Off Times) Some mutual funds are sold

through independent brokers (Such as Charles Schwab and when shares are sold the

mutual fund company would be the trusted third party independent of the dealer). It

would have been obvious to a person of ordinary skill in the art at the time the invention

was made that when fixing the price of financial instruments to apply a method for fixing

the price of a mutual fund to a method of fixing the price of other financial investments.

As per claim 26, since other financial assets are sold through out the day it would have been obvious to a person of ordinary skill in the art at the time the invention was made to fix the price at regular intervals because assets other than mutual funds are sold throughout the day so it would be advantageous to provide other opportunities to pool a number of transactions over a period of time together to provide overall lower transaction costs.

As per claim 27, Schwab teaches, "Customer orders will be priced at the Fund's net asset value next calculated after the order is received and accepted by the Fund". It would have been obvious to a person of ordinary skill in the art at the time the invention was made to require that orders be placed before a price is fixed because otherwise a stale price would create an arbitrage opportunity for people that can trade on multiple exchanges.

As per claim 28, Official notice is taken that mutual funds receive both buy and sell orders then based on whether they have experienced a net increase or decrease in shares outstanding they will either increase their holding or decrease their holdings (Barron's states that one of their holdings can be cash). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to look to mutual funds for how to handle pool transactions where some people are trying to buy an asset and others are trying to sell an asset because that is a major part of the operation of mutual funds.

As per claim 29, Barron's teaches that Open-end Mutual fund shareholders can sell their shares at the Net Asset Value (NAV) on demand. Official notice is taken that

the NAV per share is calculated by adding up all of a funds assets and liabilities at

current market prices and dividing that by the number of shares outstanding at that time.

Because the NAV would fluctuate throughout the day along with the market prices of the

assets and liabilities held by a mutual fund many mutual fund companies take orders to

move money into or out of a fund through out the day but only execute them after a cut-

off time with the NAV being calculated at that time. Schwab has cut-off times for its

mutual funds, any orders received after that would be processed the next business day

unless cancelled. (See Schwab page 2 Cut-Off Times) Some mutual funds are sold

through independent brokers (Such as Charles Schwab and when shares are sold the

mutual fund company would be the trusted third party independent of the dealer). It

would have been obvious to a person of ordinary skill in the art at the time the invention

was made that when fixing the price of financial instruments to apply a method for fixing

the price of a mutual fund to a method of fixing the price of other financial investments.

Conclusion

7.   Examiner's Note: The Examiner has cited particular columns and line numbers

in the references as applied to the claims for the convenience of the applicant.

Although the specified citations are representative of the teachings in the art and are

applied to the specific limitations within the individual claim, other passages and figures

may apply as well. It is respectfully requested from the applicant, in preparing the

responses, to fully consider the references in entirety as potentially teaching all or part

of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

8.   Any inquiry concerning this communication from the examiner should be directed to Scott S. Trotter, whose telephone number is 571-272-7366. The examiner can normally be reached on 8:30 AM – 5:00 PM, M-F.

9.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James P. Trammell, can be reached on 571-272-6712.

10.   Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

11.   The fax phone number for the organization where this application or proceeding is assigned are as follows:

(571) 273-8300   (Official Communications; including After Final

                   Communications labeled "BOX AF")

(571) 273-6705   (Draft Communications)

Scott Trotter

7/25/2007

MARY D. CHEUNG
PRIMARY EXAMINER